All-In-One Precast Agarose Gel Electrophoresis Kit (9-well)

Technical Manual No. 0278 **Version 03242009**

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I. DESCRIPTION

The **GenScript All-In-One Precast Agarose Gel Electrophoresis Kit (9-well)** contains all the necessary reagents for convenient DNA electrophoresis except running buffer. Each kit provides sufficient gel loading buffer (6X), DNA Marker, and eight precast agarose gels for at least eight DNA electrophoresis assays.

This kit has several innovative features that make the DNA electrophoresis assays safer, easier, and more convenient to perform. First, a safer, more sensitive, and more environmentally-friendly DNA dye (GelRed from Biotium) is employed in the loading buffer for DNA visualization. Second, pictures can be taken with the gel in the tray, thus eliminating the hassle of removing and handling the gel, which is especially important for handling low percentage gel (such as 0.8%) that is easy to break. Third, the gel can be reused for a few times. Finally, the DNA loading buffer and DNA marker are also included in the kit saving time, trouble, and expense.

II. KEY FEATURES

- **Ready to use:** The kit contains necessary reagents, such as loading buffer and marker.
- **Easier to handle:** Pictures can be taken with the gel in the tray, excellent for long DNA analysis using low percentage gels.
- **High sensitivity:** The sensitivity of GelRed DNA stain is much higher than that of either EB or SYBR.
- **Improved safety:** The Ames test shows GelRed to be much less mutagenic than ethidium bromide.
- **Standards parts:** GelRed works well with a standard EB filter and is compatible with a standard 300 nm UV transilluminator.

III. SAFETY CONCERNS

1. Always wear protective eyewear or using the protective shield when observing DNA on a transilluminator to prevent UV damage to the eyes.

2. Although the Ames test shows GelRed to be much less mutagenic than ethidium bromide, you must still use care when handling it. Always wear gloves when handling the gels or buffers.

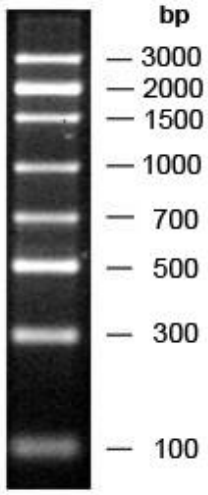
IV. KIT CONTENTS

Three kits are available with different agarose concentrations and different DNA markers.

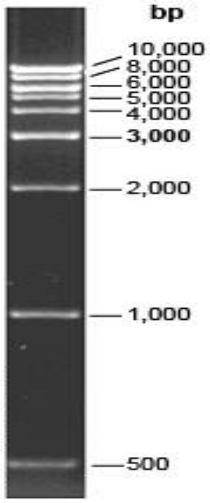
Name	Gel Size (cm×cm)	Cat. No.
0.8% 9-well Precast Agarose Gel Electrophoresis Kit	6×10	L00333
1.2% 9-well Precast Agarose Gel Electrophoresis Kit	6×10	L00334
2.0% 9-well Precast Agarose Gel Electrophoresis Kit	6×10	L00335

Each kit contains eight nine-well precast agarose gels, one tube of 6X loading buffer containing GelRed, and one tube of DNA Marker. The loading buffer and DNA markers are also available separately.

Kit Components	L00333 (0.8%)	L00334 (1.2%)	L00335 (2.0%)
Precast Nine -Well Gels	8	8	8
6X DNA Loading Buffer Containing GelRed (Cat. No. MM1394)	150 µl	150 µl	150 µl
Prestained DNA KB Ladder (Cat. No. MM1396)	60 µl		
Prestained Middle-Range DNA Marker (Cat. No. MM1395)		60 µl	60 µl
Protocol	1	1	1



Prestained Middle-Range DNA Marker
Cat. No. MM1395



Prestained DNA KB Ladder
Cat. No. MM1396

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V. STORAGE

Store the kit at 4°C. It will remain stable for six months. Avoid exposing the loading buffer and the prestained DNA marker to light. Do not freeze the gels.

VI. GENERAL PROTOCOL

1. Remove the gel from the package and place the gel (in the tray) in the electrophoresis cell. Pour enough 1X TBE buffer to cover the gel.
2. Mix 6X DNA loading buffer with the DNA sample at a volume ratio of 1:5.
3. Load the DNA samples (≤ 12 µl). Load 5 µl of prestained DNA marker or DNA ladder to one lane. If the customer prefers another DNA marker, that marker must first be mixed with 6X DNA loading buffer before loading at a volume ratio of 1:5.
4. Electrophorese the gel at 120 volts or lower until the DNA bands are resolved.
5. Visualize or take pictures on an UV transilluminator. You do not need to remove the gel from the tray. Wear gloves and protective eyewear to handle the gel and visualize the gel on UV transilluminator.

Example:

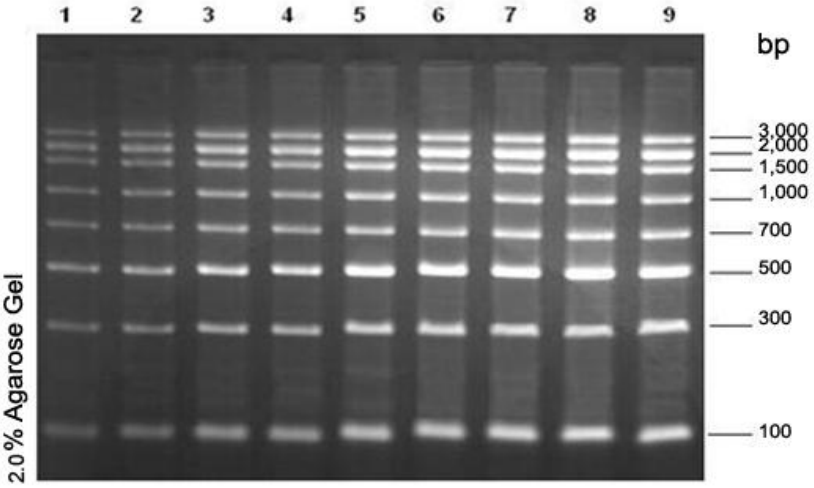

Figure 1. Prestained Middle-Range DNA Marker Electrophoresis

1 µl, 2 µl, 3 µl, 4 µl, 5 µl, 6 µl, 7 µl, 8 µl, and 10 µl of the prestained middle-range DNA marker were analyzed in a 2.0% precast agarose gel.

VII. TROUBLESHOOTING

Problem	Possible cause	Solution
Smeared bands	The voltage is too high.	Lower the voltage.
Distorted bands	The DNA concentration is too high.	Reduce the sample volume.
Streaked bands	The salt concentration in the sample is too high.	Reduce the salt concentration.

VIII. ORDERING INFORMATION

All-In-One Precast 0.8% Agarose Gel Electrophoresis Kit (9-well):	Cat. No. L00333.
All-In-One Precast 1.2% Agarose Gel Electrophoresis Kit (9-well):	Cat. No. L00334.
All-In-One Precast 2.0% Agarose Gel Electrophoresis Kit (9-well):	Cat. No. L00335.
6X DNA Loading Buffer with GelRed:	Cat. No. MM1394.
Prestained Middle-Range DNA Marker:	Cat. No. MM1395.
Prestained DNA KB Ladder:	Cat. No. MM1396.

For Research Use Only.

GenScript Corporation
120 Centennial Ave., Piscataway, NJ 08854
Tel: 732-885-9188, 732-885-9688
Fax: 732-210-0262, 732-885-5878
Email: info@genscript.com
Web: www.genscript.com